CLAIMS

1. A computer data processing system including a central processing unit configured with an integrated computer control software system for the management of information data objects including automatic organization, indexing and viewing of information, said data pro-

5   cessing system comprising:

a) a computer-readable memory structured with a partitioned storage organization having at least one object store object-oriented database including B-Tree nodes, foundation objects and reference objects, and at least one catalog database containing metadata;

b) a computer display connected to said memory for displaying objects from said object-

10   oriented database in a desktop-style interface;

c) a computer-user interface device for inputting information to said data processing system, including information to specify objects or properties of objects, and for input of objects from external sources;

d) an applications program having component architecture code processed by said

15   central processing unit so as to scan source data of objects, create or extract metadata from said scanned objects, store said metadata in said catalog database, and store reference objects in said object store with metadada links attached to said reference objects to provide automatic organization, indexing and viewing of information objects from multiple sources in said desktop-style interface while storing only one instance of said reference object.

20   2. A computer data processing system as in claim 1 wherein said central processor unit processes said code so as to generate and provide:

i)   automatic, collection-based key-phrase hyperlinking;

ii) viewing by reference, by applying a user's categorizations in an inverse manner to show relationships between objects and filtering out those that are not relevant to

25   the current view;

iii) refining of views, by automatically conjoining specifications of multiple chosen collections;

iv) time-based dynamic hierarchical collections;

v)   sticky path hierarchical scroll display;

30   vi) automatic generation of collections by one or more object content attributes selected by the user from among user-defined categorization(s), user of system-defined metadata query specification(s), user or system-defined key phrase matching, and combinations thereof;

vii) worksets for determining the union of applications used to create/edit a given set

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of objects in a collection or other container;

viii) an extensible domain mechanism for adding functionality to the system;

ix) an extensible mechanism for extracting, storing, displaying (via get info) and managing attribute from files of many different formats;

5   x) real-time filtering/sorting;

xi) notification to the user of collection establishment and changes in collections;

xii) link creation between objects and collections by drag-and-drop attribution, including the use of collections to add key phrases to an object by dragging into a collection; and

10   xiii) the setting of specific property values of objects by dragging object icons to special drop-targets.

3. A computer data processing system as in claim 1 wherein said central processing unit processes so as to generate and store in said catalog database metadata selected from association metadata and link metadata, said metadata permitting storage of only one reference object and

15   linking it to one or more collection groups.

4. A computer data processing system as in claim 3 wherein said central processing unit processes so as to include in said metadata a UID and a UUID and to alias said UID and UUID to collections selected, set or created by the user to create retrieval links from the relevant collections to the reference object so that only one instance of said reference object is stored in

20   said object oriented database, thereby saving data storage capacity.

5. A computer data processing system as in claim 4 wherein said central processing unit processes so as to scan an incoming object's source data, and upon recognition of individual objects as contained in said source data, create reference objects tagged with UUIDs to provide a one-to-one mapping between external data and said reference objects, and to automatically

25   classify and place representative icons of objects into multiple collections or containers using said link metadata rather than duplication of said objects, thereby allowing users to categorize objects i n w ays t hat m ost c learly r eflect d ifferent a pproaches a nd w ays o f v iewing t he s ame information, and to apply a user's categorizations in an inverse manner to show relationships between objects and filter out those that are not relevant to the current view for user viewing by

30   reference.

6. A computer data processing system as in claim 3 wherein said central processing unit processes so as to place only link metadata in said catalog for ease of organization and cross-referencing of objects among a large group of collections and containers by clicking on the icon

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representing an object in one collection window and dragging it into another collection window to establish a new link and new link metadata entry in said catalog database so that said reference object is viewable, accessible and retrievable from both collections.

7. A computer data processing system as in claim 3 wherein said central processing unit processes so as to query said metadata, including queries selected from matching key phrases in an object's text, matching dates and time ranges or exact matches, matches of sizes, ordering or type, and to create dynamic links based on matches detected, including automatic query processing of incoming external and internally created objects for dynamic updating of all relevant collections so that any c hanges in the u ser's information space or desktop results in timely and appropriate changes to affected object views and for hypertext generation, highlighting and linking in textual properties of objects, including objects selected from e-mail text and document text.

8. A computer data processing system as in claim 1 wherein said central processing unit processes so as to provide, during user scrolling, views of objects and their containment relationships or location paths within said memory in a window on said display so the visible object's containment hierarchies are continuously made visible in a dynamically-updating portion of the window, and as the scrolling continues in descending hierarchical order, the container of each branch remains visible in, or sticks-to, a dynamically-updating portion of the window, and in ascending hierarchical order, the stuck container views are deleted.

9. A computer data processing system as in claim 1 wherein said central processing unit processes so as to provide to users a basic set of organization principles for users to intuitively manage their information so as to reflect the information's relationships as they occur and change in the real world, including relationship principles based on people, projects, activities, events, time and place.

10. A computer data processing system as in claim 1 wherein said central processing unit processes so as to create a mirrored object system of text and image information, to provide object property-based information access, to provide a comprehensive desktop interface having collections of logical g roupings of objects and to permit user viewing by r eference, and said processing is structured as an extensible platform.

11. Method of management of informational objects by a computer system having a central processing unit, interface devices, computer-readable memory, and a display, comprising the steps of providing code structure that partitions said memory to provide storage organization having at least one object store object-oriented database including B-Tree nodes, foundation

objects and reference objects, and at least one catalog database, and causes said computer system to process by scanning source data of objects, creating or extracting metadata from said scanned objects, storing said metadata in said catalog database, storing reference objects in said object store with metadata links attached to said reference objects, thereby to provide automatic

5   organization, indexing and viewing of information objects from multiple sources in a desktop-style interface while storing only one instance of said reference object.

12. Method of management of informational objects by a computer system as in claim 11 wherein said central processor unit processes said code in steps generating and providing:

i)   automatic, collection-based key-phrase hyperlinking;

10   ii) viewing by reference, by applying a user's categorizations in an inverse manner to show relationships between objects and filtering out those that are not relevant to the current view;

iii) refining of views, by automatically conjoining specifications of multiple chosen collections;

15   iv) time-based dynamic hierarchical collections;

v)   sticky path hierarchical scroll display;

vi) automatic generation of collections by one or more object content attributes selected by the user from among user-defined categorization(s), user of system-defined metadata query specification(s), user or system-defined key phrase matching,

20   and combinations thereof;

vii) worksets for determining the union of applications used to create/edit a given set of objects in a collection or other container;

viii) an extensible domain mechanism for adding functionality to the system;

ix) an extensible mechanism for extracting, storing, displaying (via get info) and

25   managing attribute from files of many different formats;

x)   real-time filtering/sorting;

xi) notification to the user of collection establishment and changes in collections;

xii) link creation between objects and collections by drag-and-drop attribution, including the use of collections to add key phrases to an object by dragging into a

30   collection; and

xiii) the setting of specific property values of objects by dragging object icons to special drop-targets.